space for photo

The Colorado - Grand Canyon Watershed

This watershed is defined by the Colorado River drainage area, beginning in Arizona at Lake Powell, through the Grand Canyon National Park, to Hoover Dam at Lake Mead. It does not include the Little Colorado River drainage. The watershed contains spectacular incised canyons formed by erosion of sedimentary formations (e.g., sandstone), as well as volcanically formed mountains and high plateaus.

Land ownership is divided approximately as: 15% private land, 5% state land, 45% federal land, and 25% Tribal lands. Most of the 16,437 square miles in this watershed are sparsely populated, with an approximate population of 67,500 people (2000 census). The largest communities are Kingman and Williams. Land use is primarily open grazing, recreation, and silviculture (forestry), with scattered mining districts. The Grand Canyon National Park, Kaibab National Forest, Lake Mead National Recreation Area, and Glen Canyon National Recreation Area are all located within the watershed, and all have restricted land uses to protect natural resources. These federal lands also draw a large number of tourists and recreationists.

Elevations range from 1,000 feet (above sea level) along the Colorado River to 10,400 feet near Flagstaff. The majority of the watershed is between 5,000-7,000 feet in elevation, with high desert fauna and flora, including coldwater aquatic communities where perennial waters exist.

The assessment – Assessments were completed for 24 stream reaches and two lakes. Of the 188 stream miles assessed, zero miles were attaining all uses and 67 miles (three reaches) were impaired or not attaining for at least one use. All others were inconclusive or attaining some uses. Of the 9,840 lake acres assessed, all were assessed as inconclusive or attaining some uses (none were assessed as attaining all uses or impaired).

A watershed assessment map follows on the next page, illustrating stream and lake assessments by category. The Colorado-Grand Canyon **monitoring table** (**Table 7**) following the map summarizes the water quality data used in the assessment. It is followed by the **assessment table** (**Table 8**), which bridges current assessments with past assessments and impaired water identification. Important to note in this table are comments regarding previous 303(d) lists (what has been added and removed), category designations (1 through 5), references to potential actions by EPA, and status of TMDLs.

Detailed information on how to use these tables is found at the beginning of this chapter (p. IV-1). Assessment methods and criteria can be found in Chapter III.

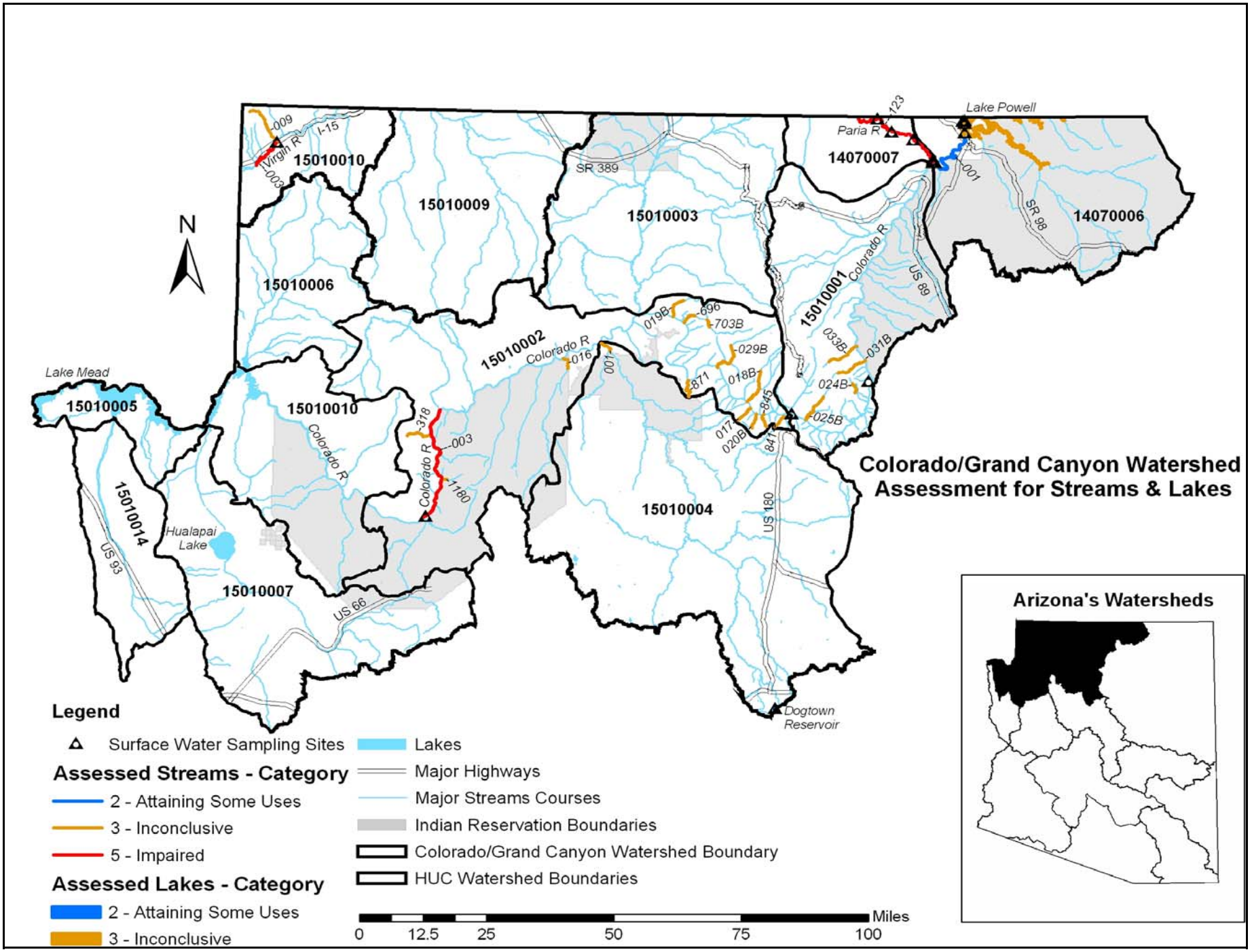

Figure 16. Watershed monitoring and assessments

TABLE 7. COLORADO - GRAND CANYON WATERSHED – 2004 ASSESSMENT MONITORING DATA

STREAM NAME SEGMENT WATERBODY ID DESIGNATED USES	AGENCY AND PROGRAM SITE DESCRIPTION SITE CODE ADEQ DATABASE ID	YEAR SAMPLED NUMBER AND TYPE OF SAMPLES	EXCEEDANCE OF STANDARDS BY SITE					
			PARAMETER UNITS	STANDARD DESIGNATED USE	RANGE OF RESULTS	FREQUENCY EXCEEDED	USE SUPPORT	COMMENTS
STREAM MONITORING DATA								
Colorado River Lake Powell - Paria River AZ14070006-001 A&Wc, FC, FBC, DWS, AgI, AgL	USGS Fixed Station #09380000 At Lee's Ferry CMCLR327.39 100743	1998 - 6 partial suites 1999 - 6 partial suites 2000 - 6 partial suites 2001 - 4 partial suites 2002 - 4 partial suites	Dissolved oxygen mg/L	> 7.0 (90% saturation) (A&Wc)	6.5 - 10.1 (99 - 63%)	1 of 25		
	Summary Row **A&Wc Attaining** **FC Attaining** **FBC Attaining** **DWS Inconclusive** **AgI Inconclusive** **AgL Attaining**	**1996-2000** **26 sampling events**	**Dissolved oxygen mg/L**	**> 7.0 (90% saturation) (A&Wc)**	**6.5 - 10.1 (99 - 63%)**	**1 of 25**	**Attaining**	**USGS collected 26 samples 1998-2002. Assessed as "attaining some uses" and placed on the Planning List due to missing core parameters: total fluoride and total boron.**
Colorado River Parashant Canyon - Diamond Creek AZ15010002-003 A&Wc, FC, FBC, DWS, AgI, AgL	USGS Fixed Station # 09404200 Above Diamond Creek CMCLR233.40 101483	1998 - 12 partial suites 1999 - 12 partial suites 2000 - 9 partial suites 2001 - 8 partial suites 2002 - 8 partial suites	Selenium (total) µg/L	2.0 (A&Wc chronic)	1 - 3.8	9 of 43		All 9 selenium exceedances occurred in 2000-2002.
			Suspended sediment concentration (SSC) mg/L	80 (geometric mean) (A&Wc)	12 - 1500	**Geo means: 1998 = 455 1999 = 113 2000 = 101 2001 = 71 2002 = 84**		**Maximum base flow was calculated to be 23,400 cfs based on 20 years of flow data.**
			Turbidity (former standard) NTU	10 (A&Wc)	0.4 - >1000	14 of 30		
	Summary Row **A&Wc Impaired** **FC Inconclusive** **FBC Inconclusive** **DWS Inconclusive** **AgI Inconclusive** **AgL Inconclusive**	**1998-2002** **49 sampling events**	**Selenium (total) µg/L**	**2.0 (A&Wc chronic)**	**1 - 3.8**	**9 of 43 events**	**Impaired**	**US Geological Survey collected 49 samples in 1998-2002. Assessed as "impaired" due to selenium and SSC exceedances.** **Also placed on the Planning List due to:** **1. Former turbidity standard exceedances.** **2. Missing core parameters: total boron, *Escherichia coli* and total metals (mercury, arsenic, manganese, copper, and lead).** **Reach was on the 2002 303(d) List due to turbidity. Monitoring will be scheduled to determine whether bottom deposit violations are occurring.**
			Suspended sediment concentration (SSC) mg/L	**80 (geometric mean) (A&Wc)**	**12 - 1500**	**4 of 5 annual geo. means**	**Impaired**	
			Turbidity (former standard) NTU	**10 (A&Wc)**	**0.4 - >1000**	**14 of 30**	**Inconclusive (see comment)**	

TABLE 7. COLORADO - GRAND CANYON WATERSHED – 2004 ASSESSMENT MONITORING DATA

STREAM NAME SEGMENT WATERBODY ID DESIGNATED USES	AGENCY AND PROGRAM SITE DESCRIPTION SITE CODE ADEQ DATABASE ID	YEAR SAMPLED NUMBER AND TYPE OF SAMPLES	EXCEEDANCE OF STANDARDS BY SITE					
			PARAMETER UNITS	STANDARD DESIGNATED USE	RANGE OF RESULTS	FREQUENCY EXCEEDED	USE SUPPORT	COMMENTS
Paria River Utah border - Colorado River AZ14070007-123 A&Ww, FC, FBC	ADEQ and Northern AZ Univ. TMDL Program Site 4 At mile marker 7.5 CMPAR022.37 101076	1998 - 1 field suite 1999 - 5 partial suites 2000 - 3 partial suites 2001 - 1 partial suite	Dissolved oxygen mg/L	> 6.0 (90% saturation) (A&Ww)	4.8 - 10.6	3 of 11		Low dissolved oxygen due to naturally occurring ground water upwelling, and not anthropogenic causes. Not included in the final assessment.
			Turbidity (former standard) NTU	50 (A&Ww)	4 - 492	8 of 11		
	ADEQ and Northern AZ Univ. TMDL Program Site 5 at mile marker 15 CMPAR013.79 101075	1998 - 1 partial suite 1999 - 5 partial suites 2000 - 4 partial suites 2001 - 1 field	Dissolved oxygen mg/L	> 6.0 (90% saturation) (A&Ww)	4 - 10.7	3 of 11		Low dissolved oxygen due to naturally occurring ground water upwelling, and not anthropogenic causes. Not included in the final assessment.
			Turbidity (former standard) NTU	50 (A&Ww)	0 - 441	8 of 11		
	ADEQ and Northern AZ Univ. TMDL Program Site 6 at mile marker 22.5 CMPAR007.95 101074	1998 - 1 partial suite 1999 - 5 partial suites 2000 - 4 partial suites 2001 - 1 partial suite	Dissolved oxygen mg/L	> 6.0 (90% saturation) (A&Ww)	4.3 - 9.1	3 of 11		Low dissolved oxygen is due to naturally occurring ground water upwelling, and not anthropogenic causes. Not included in the final assessment.
			Turbidity (former standard) NTU	50 (A&Ww)	6.2 - 441	8 of 10		
	ADEQ and Northern AZ Univ. TMDL Program Site 7 at Lees Ferry CMPAR000.55 101073	1998 - 1 partial suite 1999 - 5 partial suites 2000 - 4 partial suites 2001 - 1 partial suite	Dissolved oxygen mg/L	> 6.0 (90% saturation) (A&Ww)	4.3 - 8.2	4 of 11		Low dissolved oxygen is due to naturally occurring ground water upwelling, and not anthropogenic causes. Not included in the final assessment.
			Turbidity (former standard) NTU	50 (A&Ww)	7 - 441	8 of 11		
	USGS Special Investigation At Lees Ferry CMPAR001.03 101447	1998 - 66 SSC 1999 - 58 SSC 2000 - 50 SSC	Suspended sediment concentration (SSC) mg/L	80 (A&Ww (geometric mean)	11 - 488,000	**Geo means: 1998 = 2545 1999 = 2243 2000 = 1765**		**Maximum base flow was calculated to be 244 cfs based on 10 years of flow data.**

TABLE 7. COLORADO - GRAND CANYON WATERSHED – 2004 ASSESSMENT MONITORING DATA

STREAM NAME SEGMENT WATERBODY ID DESIGNATED USES	AGENCY AND PROGRAM SITE DESCRIPTION SITE CODE ADEQ DATABASE ID	YEAR SAMPLED NUMBER AND TYPE OF SAMPLES	EXCEEDANCE OF STANDARDS BY SITE					
			PARAMETER UNITS	STANDARD DESIGNATED USE	RANGE OF RESULTS	FREQUENCY EXCEEDED	USE SUPPORT	COMMENTS
	Summary Row **A&Ww Impaired** **FC Inconclusive** **FBC Inconclusive**	**1998 - 2001** **222 samples** **186 sampling events**	**Suspended sediment concentration (SSC) mg/L**	**80 (A&Ww) (geometric mean)**	**11 - 1,200,000**	**3 of 3 annual geo. means**	**Impaired**	**ADEQ's TMDL Program collected 48 samples at 4 sites in 1998 - 2001. USGS collected 174 suspended sediment concentration samples in 1998-2000. Assessed as "impaired" due to SSC exceedances.** **Reach is also on the Planning List due to exceedances of the former turbidity standard and missing core parameters: all except field parameters** **Preliminary studies indicate that turbidity and SSC exceedances are a natural condition caused by erosion of sandstone cliffs.** **Laboratory data from NAU were not included. Lab QA/QC protocols were not fulfilled.**
			Turbidity (former standard) NTU	**50 (A&Ww)**	**0 - 492**	**32 of 43**	**Inconclusive (see comment)**	
Virgin River Beaver Dam Wash - Big Bend Wash AZ15010010-003 A&Ww, FC, FBC, AgI, AgL	USGS Fixed Station # 9415000 At Littlefield, Az CMVGR010.18	1998 - 6 partial suites 1999 - 6 partial suites 2000 - 6 partial suites 2001 - 6 partial suites 2002 - 4 partial suites	*Escherichia coli* CFU/100 ml	235 (FBC)	12 - 3000	1 of 16		
			Selenium (total) µg/L	2 (A&Ww chronic)	<1 - 2.2	3 of 27		
			Suspended sediment concentration (SSC) mg/L	80 (A&Ww) (geometric mean)	23 - 18,300	Geo means: 1998 = 240 1999 = 169 2000 = 133		Maximum base flow was calculated to be 429 cfs based on 30 years of flow data. Insufficient SSC data in 2001 and 2002 to calculate a geometric mean.
			Turbidity (former standard) NTU	50 (A&Ww)	0.3 - 360	12 of 24		
	Summary Row **A&Ww Impaired** **FC Inconclusive** **FBC Attaining** **AgI Inconclusive** **AgL Inconclusive**	**1998-2002** **28 sampling events**	***Escherichia coli* CFU/100 ml**	**235 (FBC)**	**12 - 3000**	**1 of 16 (in 1999, 3 years with no exceedances after)**	**Attaining**	**USGS collected 28 samples in 1998-2002. Assessed as "Impaired"due to selenium and SSC exceedances.** **Also placed on the Planning List due to:** **1. Former turbidity standard exceedances.** **2. Missing core parameters: total boron, dissolved metals (cadmium, copper, and zinc), and total metals (mercury, copper, manganese, and lead).** **Reach was on the 2002 303(d) List due to turbidity. Monitoring will be scheduled to determine whether suspended sediment or bottom deposit violations are occurring.**
			Selenium (total) µg/L	**2.0 (A&Ww chronic)**	**<1 - 2.2**	**3 of 27 events**	**Impaired**	
			Suspended sediment concentration (SSC) mg/L	**80 (A&Ww) (geometric mean)**	**23 - 18,300**	**3 of 3 annual geo. means**	**Impaired**	
			Turbidity (former standard) NTU	**50 (A&Ww)**	**1 - 360**	**12 of 24**	**Inconclusive (see comment)**	

TABLE 7. COLORADO - GRAND CANYON WATERSHED – 2004 ASSESSMENT MONITORING DATA

STREAM NAME SEGMENT WATERBODY ID DESIGNATED USES	AGENCY AND PROGRAM SITE DESCRIPTION SITE CODE ADEQ DATABASE ID	YEAR SAMPLED NUMBER AND TYPE OF SAMPLES	EXCEEDANCE OF STANDARDS BY SITE					
			PARAMETER UNITS	STANDARD DESIGNATED USE	RANGE OF RESULTS	FREQUENCY EXCEEDED	USE SUPPORT	COMMENTS
LAKES MONITORING DATA								
Dogtown Reservoir AZL15010004-0480 A&Wc, FC, FBC, DWS, AgI, AgL	ADEQ and Northern AZ Univ. Lakes Program CMDOG - A (deepest) 100019	1999 - 1 field 2001 - 3 partial suites 2002 - 1 full suite	Dissolved oxygen mg/L	> 7.0 (90% saturation) (A&Wc)	6.6 - 8.9 (72 - 140%)	1 of 5		
			pH SU	6.5 - 9.0 (A&Wc, FBC, DWS, AgI, AgL)	7.2 - 9.6	2 of 5		
			Selenium (total) µg/L	2.0 (A&Wc chronic)	< 2 - 3	1 of 4		
			Turbidity (former standard) NTU	10 (A&Wc)	8 - 75	3 of 4		Naturally occurring erosion of sandstone formations may be the cause of turbidity.
	ADEQ and Northern AZ Univ. Lakes Program CMDOG - BR (boat ramp) 101319	2002 - 1 *Escherichia coli*	OK					
	Summary Row **A&Wc Inconclusive** **FC Attaining** **FBC Inconclusive** **DWS Inconclusive** **AgI Inconclusive** **AgL Inconclusive**	**1999-2002** **6 samples** **5 sampling events**	**Dissolved oxygen mg/L**	**> 7.0 (90% saturation) (A&Wc)**	**6.6 - 8.9 (72 - 140%)**	**1 of 5**	**Inconclusive**	**ADEQ and Northern Arizona University collected 6 samples in 1999 - 2002. Assessed as "attaining some uses" and placed on the Planning List due to: 1. Low dissolved oxygen, 2. High pH, 3. Selenium exceedances, and 4. Former turbidity standard exceedances. Investigation into the causes and sources of turbidity will be scheduled during the next monitoring cycle for this watershed. Also placed on the Planning List due to missing core parameters: *Escherichia coli* and dissolved metals (cadmium, copper, and zinc).**
			pH SU	**6.5 - 9.0 (A&Wc, FBC, DWS, AgI, AgL)**	**7.2 - 9.6**	**2 of 5**	**Inconclusive**	
			Selenium (total) µg/L	**2.0 (A&Ww chronic)**	**< 2 - 3**	**1 of 4 events**	**Inconclusive**	
			Turbidity (former standard) NTU	**10 (A&Wc)**	**8 - 75**	**3 of 4**	**Inconclusive (see comment)**	

TABLE 7. COLORADO - GRAND CANYON WATERSHED – 2004 ASSESSMENT MONITORING DATA

STREAM NAME SEGMENT WATERBODY ID DESIGNATED USES	AGENCY AND PROGRAM SITE DESCRIPTION SITE CODE ADEQ DATABASE ID	YEAR SAMPLED NUMBER AND TYPE OF SAMPLES	EXCEEDANCE OF STANDARDS BY SITE					
			PARAMETER UNITS	STANDARD DESIGNATED USE	RANGE OF RESULTS	FREQUENCY EXCEEDED	USE SUPPORT	COMMENTS
Lake Powell AZL14070006-1130 A&Wc, FC, FBC, DWS, AgI, AgL	Glen Canyon Natl Recreation Area and Bureau of Reclamation Ambient Monitoring Gov't Housing Beach CMPOW - NPS1	1998 - 10 *E. coli* + turbidity 1999 - 11 *E. coli* + turbidity 2000 - 16 *E. coli* + turbidity 2001 - 4 *E. coli* + turbidity 2002 - 10 *E. coli* + turbidity	*Escherichia coli* CFU/100 ml	235 (FBC)	0 - 548	1 of 51		
	Glen Canyon Natl Recreation Area and Bureau of Reclamation Ambient Monitoring Stateline Marina CMPOW - State 1	1999 - 6 *E. coli* + turbidity 2000 - 16 *E. coli* + turbidity 2002 - 8 *E. coli* + turbidity	OK					
	Glen Canyon Natl Recreation Area and Bureau of Reclamation Ambient Monitoring Wahweap Bay Marina CMPOW - WWM1	1998 - 10 *E. coli* + turbidity 1999 - 13 *E. coli* + turbidity 2000 - 18 *E. coli* + turbidity 2001 - 8 *E. coli* + turbidity 2002 - 8 *E. coli* + turbidity	*Escherichia coli* CFU/100 ml	235 (FBC)	0 - 457	1 of 57		
	Glen Canyon Natl Recreation Area and Bureau of Reclamation Ambient Monitoring Picnic Beach CMPOW - WWPB	1998 - 10 *E. coli* + turbidity 1999 - 6 *E. coli* + turbidity 2000 - 8 *E. coli* + turbidity 2002 - 8 *E. coli* + turbidity	OK					
	Summary Row **A&Wc Inconclusive** **FC Inconclusive** **FBC Inconclusive** **DWS Inconclusive** **AgI Inconclusive** **AgL Inconclusive**	**1996 - 1997** **170 samples** **60 sampling events**	***Escherichia coli*** **CFU/100 ml**	**235** **(FBC)**	**0 - 548**	**2 of 170 (only 1 exceedance in the last 3 years)**	**Inconclusive**	**Bureau of Reclamation and Glen Canyon Natural Recreation Area collected 170 samples at 4 sites in the Arizona portion of Lake Powell.** **Assessed as "inconclusive" due to 1 exceedance of the *Escherichia coli* standard within the last 3 years of monitoring and missing core parameters. Kept on the Planning List for further monitoring. (Note, no beach closures in Arizona during the past 5 years.)** **Missing core parameters: dissolved oxygen, turbidity, field pH, total boron, total fluoride, dissolved metals (copper, cadmium, and zinc), and total metals (mercury, arsenic, chromium, lead, manganese, copper, and lead).**

TABLE 8. COLORADO-GRAND CANYON WATERSHED ASSESSMENTS, PLANNING LIST, AND 303(d) STATUS TABLE

SURFACE WATER DESCRIPTION	2004 ASSESSMENT 5-CATEGORIES LAKE TROPHIC STATUS	2004 PLANNING LIST	STATUS OF 2002 303(d) LIST RECOMMENDATIONS FOR 2004 LIST	OTHER INFORMATION
COLORADO-GRAND CANYON WATERSHED – STREAM ASSESSMENTS				
Beaver Dam Wash Utah border - Virgin River 10 miles AZ15010010-009	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgL Inconclusive Category 3 -- Inconclusive	No current data. Added to the Planning List in 2002 due to insufficient sampling events.		
Boucher Creek California Wash - Colorado River 4 miles AZ15010002-017	A&Ww Inconclusive FC Inconclusive FBC Inconclusive Category 3 -- Inconclusive	No current data. Added to the Planning List in 2002 due to insufficient sampling events.		
Chuar Creek tributary at 36E11'36"/111E52'17" - Lava Creek 3 miles AZ15010001-024B (Reach was split into warmwater and coldwater segments since the last assessment. No current data in 024A. Previous data were collected in 024B.)	A&Ww Inconclusive FC Inconclusive FBC Inconclusive Category 3 -- Inconclusive	No current data. Added to the Planning List in 2002 due to insufficient sampling events.		
Clear Creek tributary at 36E09'12"/111E58'25" - Colorado River 8 miles AZ15010001-025B (Reach was split into warmwater and coldwater segments since the last assessment. No current data in 025A. Previous data were collected in 025B.)	A&Ww Inconclusive FC Inconclusive FBC Inconclusive Category 3 -- Inconclusive	No current data. Added to the Planning List in 2002 due to insufficient sampling events.		
Colorado River Lake Powell - Paria River 16 miles AZ14070006-001	A&Wc Attaining FC Attaining FBC Attaining DWS Inconclusive AgI Inconclusive AgL Attaining Category 2 -- Attaining Some Uses	On the Planning List due to missing core parameters: total fluoride and total boron. Remove selenium from the Planning List. No exceedances of the chronic standard in 19 samples.		
Colorado River Parashant Canyon - Diamond Creek 28 miles AZ15010002-003	**A&Wc Impaired** FC Inconclusive FBC Inconclusive DWS Inconclusive AgI Inconclusive AgL Inconclusive **Category 5 – Impaired**	On the Planning List due to: 1. Former turbidity standard exceedances (14 of 30 samples). Monitoring will be scheduled to determine whether suspended sediment or bottom deposit violations are occurring. 2. Missing core parameters: *Escherichia coli*, total boron, and total metals (mercury, arsenic, manganese, copper, and lead).	**Add selenium to the 303(d) List due to chronic selenium exceedances (9 of 43 sampling events).** **Add suspended sediment concentration to the 303(d) List due to exceedances of the geometric mean standard in four of five years.** Delist turbidity. The turbidity standard was repealed in 2002. Add to the Planning List and the Aquatic and Wildlife use is **assessed as "inconclusive" due to exceedances of the former turbidity standard.**	EPA may also use exceedances of the former turbidity standard as an indicator of narrative standards violations and place this reach on the 2004 303(d) List due to turbidity.
Crystal Creek tributary at 36E13'42"/112E11'48" - Colorado River 9 miles AZ15010002-018B (Reach was split into warmwater and coldwater segments since the last assessment. No current data in 018A. Previous data were collected in 018B.)	A&Ww Inconclusive FC Inconclusive FBC Inconclusive Category 3 -- Inconclusive	No current data. Added to the Planning List in 2002 due to insufficient sampling events.		

TABLE 8. COLORADO-GRAND CANYON WATERSHED ASSESSMENTS, PLANNING LIST, AND 303(d) STATUS TABLE

SURFACE WATER DESCRIPTION	2004 ASSESSMENT 5-CATEGORIES LAKE TROPHIC STATUS	2004 PLANNING LIST	STATUS OF 2002 303(d) LIST RECOMMENDATIONS FOR 2004 LIST	OTHER INFORMATION
Deer Creek tributary at 36E26'16"/112E28'15.5" - Colorado River 5 miles AZ15010002-019B (Reach was split into warmwater and coldwater segments since the last assessment. No current data in 019A. Previous data were collected in 019B.)	A&Ww Inconclusive FC Inconclusive FBC Inconclusive Category 3 -- Inconclusive	No current data. Added to the Planning List in 2002 due to insufficient sampling events.		
Garden Creek headwaters - Pipe Creek 3 miles AZ15010002-841	A&Ww Inconclusive FC Inconclusive FBC Inconclusive Category 3 -- Inconclusive	No current data. Added to the Planning List in 2002 due to insufficient sampling events.		
Havasu Canyon Creek Havasupai Indian Reservation - Colorado River 3 miles AZ15010004-001 (previously listed as Havasu Creek)	A&Ww Inconclusive FC Inconclusive FBC Inconclusive Category 3 -- Inconclusive	On the Planning List. Added in 2002 due to: 1. Insufficient monitoring (no current data). 2. Former turbidity standard exceedances. Monitoring will be scheduled to determine whether suspended sediment or bottom deposit violations are occurring.		
Hermit Creek Hermit Pack Trail Crossing - Colorado River 4 miles AZ15010002-020B (Reach was split into warmwater and coldwater segments since the last assessment. No current data in 020A. Previous data were collected in 020B.)	A&Ww Inconclusive FC Inconclusive FBC Inconclusive Category 3 -- Inconclusive	No current data. Added to the Planning List in 2002 due to insufficient sampling events.		
Kwagunt Creek tributary at 36E13'29"/111E55'24" - Colorado River 7 miles AZ15010001-031B (Reach was split into warmwater and coldwater segments since the last assessment. No current data in 031A. Previous data were collected in 031B.)	A&Ww Inconclusive FC Inconclusive FBC Inconclusive Category 3 -- Inconclusive	No current data. Added to the Planning List in 2002 due to insufficient sampling events.		
Monument Creek headwaters - Colorado River 4 miles AZ15010002-845	A&Ww Inconclusive FC Inconclusive FBC Inconclusive Category 3 -- Inconclusive	No current data. Added to the Planning List in 2002 due to insufficient sampling events.		
Nankoweap Creek tributary at 36E15'30"/111E57'23" - Colorado River 7 miles AZ15010001-033B (Reach was split into warmwater and coldwater segments since the last assessment. No current data in 033A. Previous data were collected in 033B.)	A&Ww Inconclusive FC Inconclusive FBC Inconclusive Category 3 -- Inconclusive	No current data. Added to the Planning List in 2002 due to insufficient sampling events.		
National Canyon Creek headwaters - Colorado River 3 miles AZ15010002-016	A&Ww Inconclusive FC Inconclusive FBC Inconclusive Category 3 -- Inconclusive	No current data. Added to the Planning List in 2002 due to insufficient sampling events.		

TABLE 8. COLORADO-GRAND CANYON WATERSHED ASSESSMENTS, PLANNING LIST, AND 303(d) STATUS TABLE

SURFACE WATER DESCRIPTION	2004 ASSESSMENT 5-CATEGORIES LAKE TROPHIC STATUS	2004 PLANNING LIST	STATUS OF 2002 303(d) LIST RECOMMENDATIONS FOR 2004 LIST	OTHER INFORMATION
Paria River Utah border - Colorado River 29 miles AZ14070007-123	A&Ww Impaired **FC Inconclusive** FBC Inconclusive Category 5 – Impaired	On the Planning List due to: 1. Former turbidity standard exceedances (32 of 43 samples). Monitoring will be scheduled to determine whether suspended sediment or bottom deposit violations are occurring. **2. Missing core parameters: all except field parameters.**	**Add suspended sediment concentration to the 303(d) List due to exceedances of the geometric mean in all three years monitored.** **Laboratory data from NAU were not included. Lab QA/QC protocols were not fulfilled.**	EPA may also use exceedances of the former turbidity standard as an indicator of narrative standards violations and place this reach on the 2004 303(d) List due to turbidity.
Royal Arch Creek headwaters - Colorado River 5 miles AZ15010002-871	A&Ww Inconclusive FC Inconclusive FBC Inconclusive Category 3 -- Inconclusive	No current data. Added to the Planning List in 2002 due to insufficient sampling events.		
Saddle Canyon Creek tributary at 36E21'35.5"/112E22'46" - Colorado River 5 miles AZ15010002-703B (Reach split into warmwater and coldwater segments since the last assessment. No current data in 703A.)	A&Ww Inconclusive FC Inconclusive FBC Inconclusive Category 3 -- Inconclusive	No current data. Added to the Planning List in 2002 due to insufficient sampling events.		
Shinumo Creek tributary at 36E18'21"/112E18'03" - Colorado River 9 miles AZ15010002-029B (Reach split into warmwater and coldwater segments since the last assessment. No current data in 029A. Previous data were collected in 029B.)	A&Ww Inconclusive FC Inconclusive FBC Inconclusive Category 3 -- Inconclusive	No current data. Added to the Planning List in 2002 due to insufficient sampling events.		
Spring Canyon Creek headwaters - Colorado River 6 miles AZ15010002-318	A&Ww Inconclusive FC Inconclusive FBC Inconclusive Category 3 -- Inconclusive	No current data. Added to the Planning List in 2002 due to insufficient sampling events.		
Tapeats Creek headwaters - Colorado River 13 miles AZ15010002-696	A&Wc Inconclusive FC Inconclusive FBC Inconclusive Category 3 -- Inconclusive	No current data. Added to the Planning List in 2002 due to insufficient sampling events.		
Three Springs Creek headwaters - Colorado River 1 mile AZ15010002-1180	A&Ww Inconclusive FC Inconclusive FBC Inconclusive Category 3 -- Inconclusive	No current data. Added to the Planning List in 2002 due to insufficient sampling events.		
Vasey's Paradise (Spring) at Colorado River 0.2 miles AZ15010001-SP01	A&Wc Inconclusive FC Inconclusive FBC Inconclusive Category 3 -- Inconclusive	No current data. Added to the Planning List in 2002 due to insufficient sampling events.		

TABLE 8. COLORADO-GRAND CANYON WATERSHED ASSESSMENTS, PLANNING LIST, AND 303(d) STATUS TABLE

SURFACE WATER DESCRIPTION	2004 ASSESSMENT 5-CATEGORIES LAKE TROPHIC STATUS	2004 PLANNING LIST	STATUS OF 2002 303(d) LIST RECOMMENDATIONS FOR 2004 LIST	OTHER INFORMATION
Virgin River Beaver Dam Wash - Big Bend Wash 10 miles AZ15010010-003	**A&Ww Impaired** FC Inconclusive FBC Attaining AgI Inconclusive AgL Inconclusive **Category 5 – Impaired**	On the Planning List due to: 1. Missing core parameters: total boron, dissolved metals (cadmium, copper, and zinc), and total metals (mercury, manganese, copper, and lead). 2. Former turbidity standard exceedances (12 of 24 samples). Monitoring will be scheduled to determine whether suspended sediment or bottom deposit violations are occurring.	**Add selenium to the 303(d) List due to chronic selenium exceedances (3 of 27 sampling events).** **Add suspended sediment concentration to the 303(d) List due to exceedances of the geometric mean in all three years with sufficient SSC monitoring data.** Delist fecal coliform. Standards were repealed in 2002. *Escherichia coli* results are supporting designated uses. Delist turbidity. The turbidity standard was repealed in 2002. Add to the Planning List due to exceedances of the former standard.	EPA may also use exceedances of the former turbidity standard as an indicator of narrative standards violations and place this reach on the 2004 303(d) List due to turbidity.
COLORADO-GRAND CANYON WATERSHED – LAKE ASSESSMENTS				
Dogtown Reservoir 70 acres AZL15010004-0480	A&Wc Inconclusive FC Attaining FBC Inconclusive DWS Inconclusive AgI Inconclusive AgL Inconclusive Category 2 – Attaining Some Uses Trophic Status – Eutrophic	On the Planning List due to: 1. Chronic selenium exceedance (1 of 4 sampling events). 2. Low dissolved oxygen (1 of 5 samples). 3. High pH (2 of 5 samples). 4. Missing core parameters: *Escherichia coli* and dissolved metals (copper, cadmium, and zinc). 5. Former turbidity standard exceedances (3 of 4 samples). The causes and sources of turbidity will be investigated during the next monitoring cycle for this watershed.		EPA may use exceedances of the former turbidity standard as an indicator of narrative standards violations and place this reach on the 2004 303(d) List due to turbidity.
Lake Powell 9,772 acres AZL14070006-1130	A&Wc Inconclusive FC Inconclusive FBC Inconclusive DWS Inconclusive AgI Inconclusive AgL Inconclusive Category 3 -- Inconclusive Trophic status not calculated	On the Planning List due to: 1. *Escherichia coli* exceedance (1 exceedance in the last 3 years). 2. Missing core parameters (only *Escherichia coli* and turbidity data).		